

494280

## TECHNICAL STANDARD OPERATING PROCEDURE

Date: March 20, 2000

SOP No. MK-VBI70-08

Title: **SPLIT SOIL SAMPLE COLLECTION**

### APPROVALS:

Author: Morrison Knudsen Corporation

Date: March 20, 2000

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SYNOPSIS: Provides procedures for collection and documentation of split soil samples.

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Received by QA Unit

### REVIEWS:

#### TEAM MEMBER

#### SIGNATURE/TITLE

#### DATE

EPA Region 8

*Bonny L. Linder* / RPM

3/22/00

Morrison Knudsen Corp.

REV.	DATE	REVISION DESCRIPTION



MORRISON KNUDSEN CORPORATION  
Response Action Contract No. 68-W7-0039  
No. 0

SOP No. MK-VBI70-08  
Revision

# TECHNICAL STANDARD OPERATING PROCEDURE

## SPLIT SOIL SAMPLE COLLECTION

### 1.0 PURPOSE

The purpose of this procedure is to provide instructions to Morrison Knudsen (MK) personnel assigned to the VB/I-70 project and their subcontractors on the protocol for collecting split soil samples.

### 2.0 SCOPE

This procedure covers activities associated with collecting split soil samples, including soil samples requested by residential property owners. Split samples are representative portions taken from one sample in the field or in the laboratory and analyzed by different analyst or laboratories, and may be used to assess analytical variability and comparability. Split samples will typically be collected in order to provide the property owner with a sample that they may have analyzed at a laboratory of their choice.

### 3.0 REFERENCES

USEPA Region 8, Quality Management Plan, Final Version 1.0, September 19, 1996.

USEPA, Test Methods for Evaluating solid Waste, Revision 1, July, 1992.

### 4.0 RESPONSIBILITIES

The **Sample Technician** is responsible for reviewing field documentation to identify those properties for which a split sample is to be collected, and for sample collection and documentation in accordance with this procedure.

The **Field Supervisor** is responsible for training the Sample Technicians on the requirements of this procedure, and for providing oversight and assistance as necessary to ensure compliance with this procedure.



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The **Site Manager** is responsible for ensuring that the Field Supervisor receives current information identifying properties at which split samples are to be collected.



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### **5.0 EQUIPMENT**

The same equipment used in the collection of residential soil samples will be employed to collect split samples. Smaller, one-quart capacity sample bags may be used in place of the one-gallon bags used to contain original samples.

- Trowel, stainless steel or plastic
- Mixing Bowl, stainless steel or plastic
- Gloves, PPE as specified in Site Health and Safety Plan
- Sample container, 1-quart plastic zip-lock
- Blank sample tags and custody seals

### **6.0 REQUIREMENTS**

Whenever possible, splits will be collected at the time a property is sampled. If the request for splits is received after a property is sampled, the remaining raw fraction sample may be retrieved from sample storage and used as the source of a split sample.

The Sample Technician will determine whether a split sample is required. This determination may be based on field documentation, or may be based on a verbal or written request from the EPA Remedial Project Manager or property owner. If the property owner requested split samples on the property access agreement, the property will be flagged on the work area map with a "Y". If the property owner is present at the time of sampling and the work area map denotes "Y" for split samples, the Sample Technician should confirm that the property owner desires a split and understands their responsibilities for sample analysis.

Each soil sample shall be collected as described in latest revision of SOP No. ISSI-VBI70-02, Residential Soil Sampling for Yards, and School or Park Soils. After the subsamples are composited in the mixing bowl, the sample will be homogenized using the trowel until the soil sample appears to be of a consistent texture and color.



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Approximately 8 ounces of the soil shall be transferred to the split sample bag, and the remainder transferred to the original sample bag. Both bags will be immediately labeled. The pre-printed label will be used to identify the original sample. The identical sample number will be used for the split sample, and will be entered on an adhesive sample tag along with the sample date/time and samplers' names. A signed and dated custody seal will be affixed across the seam of the split sample bag. Examples of the sample tags and custody seals to be used for split samples are presented in Attachments A and B.

Documentation that split samples were collected will be generated by marking an "X" in the Split Sample-YES column of the chain-of-custody form that accompanies the original sample, and also will be noted in the field logbook.

This procedure will be repeated for each of the samples, typically three total, collected from a property at which splits have been requested. The samples shall be provided to the resident in person if possible, or will be left at the front door if the resident is not present. A Split Sample Notification must be provided along with the samples, which provides instructions on sample preparation and analytical methods that are recommended in order to generate data that will be comparable to the original sample data.

### **7.0 RECORDS**

- Chain-of-Custody Form
- Field Logbook

### **8.0 ATTACHMENTS**


- A Split Sample Tag
- B Custody Seal
- C Split Sample Notification



**TECHNICAL STANDARD OPERATING PROCEDURE  
SPLIT SOIL SAMPLE COLLECTION**

**ATTACHMENT A**

**Example Split Sample Tag**

	<b>MORRISON KNUDSEN CORPORATION</b>
SAMPLE ID: _____	
SAMPLE DATE/TIME: _____	
ANALYSES REQUESTED: _____ _____	
PRESERVATIVE: _____	
SAMPLERS INITIALS: _____	



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**ATTACHMENT B**

**Custody Seal**

No. 0450



**CUSTODY SEAL**

DATE \_\_\_\_\_

No.

**MORRISON  
KNUDSEN  
CORPORATION**

SIGNATURE \_\_\_\_\_



**CUSTODY SEAL**

DATE \_\_\_\_\_

**MORRISON  
KNUDSEN  
CORPORATION**

SIGNATURE \_\_\_\_\_

No. 0450

No.



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## ATTACHMENT C Split Sample Notification



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

### PHASE III SOIL SAMPLING – SPLIT SAMPLES

#### Resident notice:

The owner of the property at \_\_\_\_\_  
has requested a portion of the soil samples collected by EPA (split samples).  
The split samples are identified as \_\_\_\_\_.  
The property owner is responsible for the cost of any analyses that they choose  
to perform on these samples.

If the owner chooses to perform analyses for comparison to EPA's sample  
results, please do the following:

- 1) Contact an analytical laboratory of your choice.
- 2) Request that the laboratory:
  - Prepare the sample by drying and sieving to remove material greater than 2 millimeters using a # 10 sieve.
  - Analyze the prepared samples using EPA Method 6010B ("trace ICP") for arsenic and lead.
- 3) Follow the laboratory's instructions for sample delivery.



LA AGENCIA DE PROTECCIÓN DEL MEDIO AMBIENTE  
DE LOS ESTADOS UNIDOS

### FASE III COLECCIÓN DE MUESTRAS DE SUELO-SPLIT SAMPLES

#### Aviso al residente:

El dueño de la propiedad \_\_\_\_\_  
ha solicitado una porción de las muestras de suelo coleccionadas por el EPA  
(split samples). Las "split samples" estan identificadas  
como \_\_\_\_\_.  
El dueño de la propiedad es responsable por el costo de cualquier análisis  
que él escoja para que se realice en estas muestras.

Si el dueño decide realizar análisis para compararlos con los resultados de la  
muestra de EPA, por favor haga lo siguiente:

- 1) Contacte al laboratorio analítico de su preferencia.
- 2) Pida que el laboratorio:
  - Prepare la muestra secundola y despues pasandola por un tamiz # 10 para remover material de tamaño mayor a 2 milímetros.
  - Analice las muestras preparadas utilizando el Método del EPA 6010B ("trace ICP") para arsénico y plomo
- 3) Siga las instrucciones del laboratorio para el envío de la muestra.



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